



Study No. 5

Review of Federal Programs and Services In Support of Aquaculture Development

By

**The Office of Sustainable Aquaculture
(Fisheries and Oceans Canada)**

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Summary

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The federal government and its provincial and territorial counterparts share jurisdiction over aquaculture. In the federal government alone, several departments and agencies have an influence on aquaculture development. As the primary organization responsible for this sector, the Department of Fisheries and Oceans felt it would be appropriate to prepare a list of federal government programs and services relating to aquaculture. DFO started developing this list in the summer of 2002 by means of a consultation with representatives of the Interdepartmental Committee on Aquaculture, which brings together more than 20 federal government departments and agencies responsible for aquaculture development in Canada.

This report presents the results of this exercise and sets out the aquaculture programs and services that are currently available within federal government departments and agencies.

The purpose of the report is to compile information from federal departments and agencies about existing aquaculture programs. The report presents an overview of the available programs and services; it is not intended to be an exhaustive description of all of the programs and services available to industry. This compilation may later form the subject of a more detailed study and analysis to identify gaps in federal programming, establish recommendations for the implementation of programs that meet industry needs and facilitate aquaculture sector access to existing programs and services.

Introduction

This report provides an overview of a number of aquaculture programs and services within federal government departments and agencies.

This exercise provides support to one of the strategic commitments made in the Department of Fisheries and Oceans' Aquaculture Policy Framework by identifying the federal programs and services that exist and facilitating the aquaculture sector's access to these programs as appropriate. The report will also bolster the work of the Office of the Commissioner for Aquaculture Development in its extended mandate.

The information in this report was put together through the efforts and collaboration of the Interdepartmental Committee on Aquaculture.

The report is divided into two sections.

- The first section summarizes the programs and services by category and by department/agency.
- The second section is a detailed review of federal aquaculture programs and services, by department/agency.

The report presents information on programs and services as it was submitted by the federal departments and agencies that participated in this exercise. The information essentially focuses on existing programs indexed during the summer and fall of 2002.

To facilitate the integration of the information and make the report easier to understand, the information was grouped into the following categories:

- production
- processing
- development and transfer of technology
- marketing effectiveness
- environmental, fish health and food safety issues
- technical support
- research
- training
- policies/regulations

Summary of Programs and Services by Category

Support for Production

Agriculture and Agri-Food		ACOA	CCRA	CED for Quebec Regions		CFIA
		☛ Business Development Program		☛ Innovation, Development and Entrepreneurship and Export for SMEs	☛ Assuming marine biotoxin costs	☛ Participation in Baynes Sound, BC management plan
				☛ Canadian Support Program for the Economy of Gaspé and the Magdalen Islands		
CIDA		DFAIT	Environment Canada	Farm Credit Canada	Fed.Nor	
☛ CIDA projects in aquaculture				☛ Term Loans	☛ Innovation program	☛ Investment program
Fisheries and Oceans Canada		Health Canada	HRDC	INAC	National Research Council	
				☛ Opportunity Fund Program	☛ Institute for Marine Bio-sciences	
				☛ Major Business Projects Program		
				☛ Resource Acquisition Initiative		
				☛ Atlantic Practical Measures (joint INAC/DFO program)		
NSERC		Statistics Canada	WED			
			☛ WD Loan Fund Program			
			☛ Community Futures Program			
			☛ Service Delivery Network Program			
			☛ Softwood Industry Community Economic Adjustment Initiative (SICEAI)			
			☛ Coastal Community Economic Adjustment Initiative			

Support for Processing

Agriculture and Agri-Food		ACOA	CCRA	CED for Quebec Regions		CFIA
	 Business Development Program			 Innovation, Development of Entrepreneurship and Export for SMEs	 Canadian Support Program for the Economy of Gaspé and the Magdalen Islands	
CIDA	DFAIT	Environment Canada		Farm Credit Canada		FedNor
				 Term Loans	 Innovation program  Investment program	
Fisheries and Oceans Canada		Health Canada		HRDC		INAC
				 Opportunity Fund Program	 Major Business Projects Program	 Resource Acquisition Initiative
				 Atlantic Practical Measures (joint INAC/DFO program)		
NSERC	Statistics Canada		WED			
		 WD Loan Fund Program	 Community Futures Program	 Service Delivery Network Program	 Softwood Industry Community Economic Adjustment Initiative (SICEAI)	
			 Coastal Community Economic Adjustment Initiative			

Support for Technology Development and Transfer

Agriculture and Agri-Food		ACOA	CCRA	CED for Quebec Regions	CFIA
		- Atlantic Innovation Fund - Business Development Program			
CIDA		DFAIT	Environment Canada	Farm Credit Canada	FedNor
CIDA projects in aquaculture				Innovation program	
Fisheries and Oceans Canada		Health Canada	HRDC	INAC	National Research Council
PSA - ACRDP					Industrial Research Assistance Program
NSERC		Statistics Canada	WED		
			- First Jobs in Science and Technology - Innovation and Community Investment Program - Western Economic Diversification Program		

Support for Marketing

Agriculture and Agri-Food		ACOA	CCRA	CED for Quebec Regions	CFIA
- Canadian Agriculture and Food International Program - Provision of Information and Other Services to Exporters	Business Development Program			- Innovation, Development and Export for SMEs - Canadian Support Program for the Economy of Gaspé and the Magdalen Islands	- Increased Sampling and Analysis for Biotoxins - Development of Biotoxin Standards - Participation in Baynes Sound, BC management plan - Vp Monitoring & Project
CIDA		DFAIT	Environment Canada	Farm Credit Canada	FedNor
	- Export Market Development Program - Fish Technical Market Access Committee				Trade Program
Fisheries and Oceans Canada		Health Canada	HRDC	INAC	National Research Council
NSERC		Statistics Canada	WED		
		- International Trade Personnel Program - Western Economic Diversification Program			

Support for Fish Health, Food Safety and Environmental Issues

Agriculture and Agri-Food		ACOA	CCRA	CED for Quebec Regions	CFIA
					☒ Increased Sampling and Analysis for Biotoxins ☒ Antimicrobial Resistance Project - Sample Collection ☒ On-Farm HACCP for Shellfish Aquaculture ☒ Development of Biotoxin Standards ☒ Participation in Baynes Sound, BC management plan ☒ Vp Monitoring & Project
CIDA		DFAIT	Environment Canada	Farm Credit Canada	FedNor
			☒ Shellfish Water Quality Protection Program ☒ Special Studies in Atlantic and Ontario Regions ☒ National Water Research Institute ☒ Freshwater Aquaculture Science Working Group ☒ Environmental Quality Monitoring & Assessment of the Impacts of Freshwater Aquaculture ☒ Canadian Wildlife Service ☒ Environmental Assessments ☒ Ocean Disposal Permits		☒ Innovation program
Fisheries and Oceans Canada		Health Canada	HRDC	INAC	National Research Council
☒ PSA - Environmental and Biological Science ☒ PSA - ACRDP ☒ PSA - Habitat Management ☒ PSA - Canadian Shellfish Sanitation Program ☒ Aquatic Animal Health Program	☒ Healthy Fish Thematic Working Group ☒ Interdepartmental Committee on Therapeutic Use in Aquaculture ☒ Surveillance of antimicrobial use and antimicrobial resistance ☒ Office of Regulatory and International Affairs ☒ Environmental Assessment Unit				☒ Industrial Research Assistance Program ☒ Institute for Marine Bio-sciences
NSERC		Statistics Canada	WED		

Technical Support

Agriculture and Agri-Food	ACOA	CCRA	CED for Quebec Regions	CFIA
			☐ Innovation, Development and Export for SMEs ☐ Canadian Support Program for the Economy of Gaspé and the Magdalen Islands	
CIDA	DFAIT	Environment Canada	Farm Credit Canada	FedNor
		☐ Freshwater Aquaculture Science Working Group ☐ Environmental Quality Monitoring & Assessment of the Impacts of Freshwater Aquaculture ☐ Environmental Assessments		
Fisheries and Oceans Canada	Health Canada	HRDC	INAC	National Research Council
☐ Western Region's Organic Residues Laboratory ☐ National Fish Survey Interdepartmental Committee on Aquaculture				☐ Industrial Research Assistance Program
NSERC	Statistics Canada	WED		

Support for Research

Agriculture and Agri-Food		ACOA	CCRA	CED for Quebec Regions	CFIA
		- Business Development Program - Atlantic Innovation Fund	Scientific Research and Experimental Development Program	Innovation, Development of Entrepreneurship and Export for SMEs	- Polyculture Project (AquaNet) - Antimicrobial Resistance Project – Sample Collection - Vp Monitoring & Project
CIDA		DFAIT	Environment Canada	Farm Credit Canada	FedNor
			- Special Studies in Atlantic and Ontario Regions - National Water Research Institute - Freshwater Aquaculture Science Working Group - Environmental Quality Monitoring & Assessment of the Impacts of Freshwater Aquaculture - Canadian Wildlife Service		Innovation program
Fisheries and Oceans Canada		Health Canada	HRDC	INAC	National Research Council
- PSA – Environmental and Biological Science - PSA – ACRDP - Aquatic Animal Health Program - Aquaculture Research Program - Biotechnology Program	Extra-label use of drugs in aquaculture study	Aquaculture Industry Situational Analysis and Strategy			- Institute for Marine Biosciences - Industrial Research Assistance Program
NSERC		Statistics Canada	WED		
- AquaNet - Strategic Grants - Collaborative Research and Development Grants - Discovery Grants	- Aquaculture Industry – Value Added Account - Aquaculture Production, Value and Exports	- Innovation and Community Investment Program - Canadian Foundation for Innovation			

Support for Training

Agriculture and Agri-Food	ACOA Business Development Program	CCRA	CED for Quebec Regions		CFIA
			➔ Innovation, Development of Entrepreneurship and Export for SMEs	Farm Credit Canada	
CIDA	DFAIT	Environment Canada			FedNor
➔ CIDA projects in aquaculture					➔ Trade program ➔ Community partnerships program
Fisheries and Oceans Canada	Health Canada	HRDC	INAC		National Research Council
		➔ Youth Science and Technology Internships			➔ Industrial Research Assistance Program
NSERC	Statistics Canada	WED			
➔ AquaNet		➔ First Jobs in Science and Technology Program ➔ International Trade Personnel Program ➔ Western Economic Diversification Program			

Support for Policy and Regulations

Agriculture and Agri-Food		ACOA	CCRA	CED for Quebec Regions	CFIA
		Policy, Advocacy and Coordination	Scientific Research and Experimental Development Program		Interdepartmental Committee on Therapeutic Use in Aquaculture Increased Sampling and Analysis for Biotoxins Genetically Modified Fish On-Farm HACCP for Shellfish Aquaculture
CIDA		DFAIT	Environment Canada	Farm Credit Canada	FedNor
Fisheries and Oceans Canada		Health Canada	HRDC	INAC	National Research Council
PSA – Habitat Management		Healthy Environment Thematic Working Group	Shellfish Water Quality Protection Program		Industrial Research Assistance Program
PSA – Marine Safety		Healthy Fish Thematic Working Group	Environmental Assessments		
PSA – Policy and Program Coherence		Interdepartmental Committee on Therapeutic Use in Aquaculture	Ocean Disposal Permits		
Aquatic Animal Health Program		Exploratory meeting with Ontario and INAC	Canadian Wildlife Service		
Biotechnology Program		Surveillance of antimicrobial use and resistance			
Interdepartmental Committee on Aquaculture		Western Region's Organic Residues Laboratory			
		National Fish Survey			
		Extra-label use of drugs in aquaculture study			
		Interdepartmental Committee on Aquaculture			
		Seafood Safety and Aquaculture			
NSERC		Statistics Canada	WED		
		Aquaculture Industry – Value Added Account	Policy, Advocacy and Coordination		
		Aquaculture Production, Value and Exports			

Review of Programs and Services in Support of Aquaculture Development

Agriculture and Agri-Food Canada

Program Name	Description	Comments	Budget/Funding
Canadian Agriculture and Food International Program ☞ Category: ☞ Assists marketing effectiveness	☞ A multi-year, multi-million dollar program designed to assist agri-food and seafood exporters in developing and expanding international markets. Applications are made through associations.	☞ Program is open to national associations or associations which represent the majority of the product for which funding support is requested. Eligible activities include generic promotion and brand promotion where competitors' products receive government funding. ☞ Open to all Canadian seafood exporters.	☞ \$15 M for all eligible clients.
Provision of Information and Other Services to Exporters ☞ Category: ☞ Assists marketing effectiveness	☞ China Fisheries and Seafood Expo (Qingdao, China, October 29-31, 2002) ☞ Trade show. Canadian pavilion with 10 individual booths available to exporters. Supported by advertising and generic promotion.	☞ Open to all Canadian seafood exporters.	☞ \$60,000 for 2002 show only.
	☞ International West Coast Seafood Show (Los Angeles, CA, November 3-5, 2002) ☞ Trade show. Canadian pavilion with 12 individual booths available to exporters. Supported by advertising and generic promotion.	☞ Open to all Canadian seafood exporters.	☞ \$20,000 for 2002 show only.
	☞ European Seafood Exposition (Brussels, Belgium, May 6-8, 2003) ☞ Trade show. Canadian pavilion supported by advertising and generic promotion.	☞ Open to all Canadian seafood exporters.	☞ \$40,000 for 2003 show only.

Agriculture and Agri-Food Canada

Program Name	Description	Comments	Budget/Funding
Provision of Information and Other Services to Exporters (cont'd)	- Canadian Seafood Industry Guide - AAFC receives 5,000 copies of industry directory and distributes them at trade shows, to Trade Commissioner Service, etc. Searchable electronic version of directory appears on AAFC seafood web site.		☞ \$10,000
	- AAFC seafood web site - Comprehensive web site for buyers and Canadian industry.		
	- International Boston Seafood Show, March 11-13, 2002, Boston, MA - Promotion of Canadian fish and seafood products (aquaculture and capture); promotional materials, chef to sample products, etc.	Federal info booth only for distribution of materials and product sampling.	☞ \$15,000

Atlantic Canada Opportunities Agency (ACOA)

Program Name	Description	Comments	Budget/Funding
	☞ Since its inception, ACOA has worked with industry and other government departments to support the development of aquaculture in Atlantic Canada. This support has come in many forms including direct financial assistance to growers and processors, investments in R&D, and policy, advocacy and coordination activities to further industry growth.		☞ ~ \$164 million from 1987-2002, including: ☛ ~ \$51 million to new aquaculture industries; and ☛ ~ \$47 million to aquaculture industry expansion
Business Development Program ☞ Category: ☛ Supports production ☛ Supports processing ☛ Assists marketing effectiveness ☛ Supports technology development and transfer ☛ Supports research ☛ Supports training	☞ Focusing on small- and medium-sized enterprises, the program offers access to capital in the form of interest-free, unsecured, repayable contributions.	☞ There are no specific initiatives targeted for aquaculture under the Agency's Business Development Program (BDP). However, the BDP's commercial and business support components are used to support production, value-added processing, technology development and transfer, selected types of marketing, and some forms of training targeted especially at business management skills, export readiness and innovation. The BDP has also been used to support sector-specific strategies, some industry association activities. Through the associations, the BDP is also supporting broodstock development programs, environmental monitoring and remediation, research priorities, disease research, fish health as well as providing assistance toward capital infrastructure at research facilities in support of alternate species development.	☞ \$44.3 million from 1995 to 2002

Atlantic Canada Opportunities Agency (ACOA)

Program Name	Description	Comments	Budget/Funding
Atlantic Innovation Fund Category: Supports research Facilitates technology development and transfer	The Atlantic Innovation Fund (AIF) finances research and development and related initiatives in the areas of natural and applied sciences, and social sciences and humanities linked explicitly to the development of technology-based products, processes or services or their commercialization.	There are no specific initiatives under the AIF targeted for aquaculture. However, a number of aquaculture-related projects were approved for funding and announced in July 2002. These projects include: \$ cod and halibut broodstock development; \$ disease resistance in salmon; \$ aquatic health sciences; \$ a new fish pathogen diagnostic tool for aquaculture; \$ an enhancement of the salmon broodstock program at the Huntsman Marine Sciences Centre; and \$ enhancements to a salmon broodstock program.	Launched in 2001, the AIF is a \$300-million - 5 year fund designed to strengthen the economy of Atlantic Canada by accelerating the development of knowledge-based industries.
Policy, Advocacy and Coordination Category: Supports policy /regulatory efforts	Policy, Advocacy and Coordination is one of ACOA's strategic priorities and focuses on ensuring that federal economic policies respond to economic development needs in Atlantic Canada.	ACOA undertakes policy research and analysis in support of aquaculture development in Atlantic Canada. ACOA advocates with other federal organizations to make them aware of the needs of the aquaculture industry in the region. ACOA plays a coordination role at the regional level in bringing various stakeholders together to address common issues.	

Canada Customs and Revenue Agency (CCRA)

Program Name	Description	Comments	Budget/Funding
Scientific Research and Experimental Development Program Category: ☞ Supports research ☞ Supports policy/regulatory efforts	☞ The Scientific Research and Experimental Development SR&ED Program provides tax incentives to Canadian businesses that conduct SR&ED in Canada. This program is intended to encourage businesses -- particularly small and start-up firms -- to conduct SR&ED that will lead to new, improved, or technologically advanced products or processes.	☞ National Seminars are provided as general overview of the program. ☞ Account Executive Service, to ensure SR&ED Program continuity for claims, ways to simplify, providing guidance, clarification, and information ☞ The Preclaim Project Review (PCPR) Service provides an up-front review and a preliminary opinion on the eligibility of projects for SR&ED tax incentives. ☞ National Technology Sector Specialists roles and responsibilities ☞ Maximize national consistency in the application of legislation, maintain a responsive and visible presence to internal and external clients, develop and share sector-specific knowledge, liaise with the Research and Technology Section in the development of administrative practice for implementation of technical policy. Provide other assistance and guidance where required ☞ Publications, forms and guides are also provided as information sources	

Canada Economic Development for Quebec Regions (CED)

Program Name	Description	Comments	Budget/Funding
IDEA-SME (Innovation, Development of Entrepreneurship and Export for SMEs)	➤ Regional, national and international markets are becoming more competitive every day. As a result Canada Economic Development has adopted a modern and effective program to help SMEs become more competitive globally. Through agreements with other federal agencies, CED makes it easier for SMEs to access a variety of economic programs and services. ➤ The agency thus enables Quebec SMEs to obtain: ☞ information; ☞ consulting services; ☞ financial support to help carry out activities included in the priority areas. ➤ The IDEA-SME program created by Canada Economic Development is part of this dynamic approach. It enables the agency to offer SMEs a wide range of resources and services that support their growth and help them overcome market complexity. IDEA-SME provides assistance in three areas: ☞ innovation and productivity; ☞ market development and export; ☞ entrepreneurship and business climate.	INNOVATION ➤ Priorities ☞ Encourage SMEs to innovate and increase their productivity. ☞ Promote the marketing of products, processes, services and technologies developed through research and development (R&D). ☞ Support the sustainable use of natural resources. ☞ Disseminate test results that could be useful to SMEs within a given sector. ➤ Target clientele ☞ SMEs and the organizations that support them. ➤ Eligible activities include: ☞ Diagnostics related to productivity; electronic business plans; studies concerning the development of an innovative product, process or service. ☞ Tailoring of a product, process or service to market demands. ☞ Purchase of new strategic equipment as a result of a productivity-related diagnostic process.	➤ Financial assistance is generally repayable and limited to eligible costs depending on the nature of the project.

Canada Economic Development for Quebec Regions (CED)

Program Name	Description	Comments	Budget/Funding
IDEA-SME (continued)		Design, development, adoption and demonstration of a new or improved product, process or service that constitutes a technological innovation, including testing and experimentation in the natural resources sector. Development and implementation of a marketing plan for an innovative product, process or service. Organization of activities designed to promote innovation, productivity and e-business. Production and distribution of studies on innovation, testing or experimentation and on commercial and technology trends.	

Canada Economic Development for Quebec Regions (CED)

Program Name	Description	Comments	Budget/Funding
IDEA-SME (continued)		MARKET DEVELOPMENT AND EXPORT ➤ Priorities ❖ Development of international trade. ❖ Marketing of tourism products. ➤ Target clientele ❖ SMEs and the organizations that support them. ➤ Eligible activities include ❖ Consultants' studies to develop a marketing strategy. ❖ Implementation of this strategy. ❖ Actions that support foreign market development strategies, including the production of promotional material to support the activities of SMEs abroad. ❖ Planning, organization and holding of events designed to increase product and service marketing. ❖ Actions aimed at developing the marketing skills and know-how of SMEs through networking, alliances and management assistance.	➤ Financial assistance is generally repayable and limited to eligible costs based on the type of project.

Canada Economic Development for Quebec Regions (CED)

Program Name	Description	Comments	Budget/Funding
IDEA-SME (continued)		ENTREPRENEURSHIP ☞ Priorities ☞ Promote a dynamic entrepreneurial climate in all regions of Quebec; priorities are established based on regional needs. ☞ Target clientele ☞ Business groups and economic development organizations. ☞ Eligible activities include ☞ <i>Entrepreneurship</i> ☞ Organization of events and activities related to entrepreneurship. ☞ Organization of entrepreneurship contests and activities honouring excellence (awards, grants, etc.). ☞ Design, production and distribution of tools to assist entrepreneurs and business start-ups. ☞ Set-up in universities of information and entrepreneurship promotion centres and start-up assistance centres that focus on innovation and technology. ☞ Set-up and operation of technology development assistance centres.	☞ Contributions and grants are based on eligible costs deemed reasonable.

Canada Economic Development for Quebec Regions (CED)

Program Name	Description	Comments	Budget/Funding
IDEA-SME (continued)		⇒ <i>Business climate</i> ⊗ Conduct of studies and research, analysis or planning activities designed to improve the business climate. ⊗ Planning, organization and holding of seminars, conferences and fairs related to the improvement of the business climate.	

Canada Economic Development for Quebec Regions (CED)

Program Name	Description	Comments	Budget/Funding
CSPEGI (Canadian Support Program for the Economy of Gaspé and the Magdalen Islands)	☛ The Government of Canada has responded to the exceptional difficulties being experienced in Gaspé and the Magdalen Islands by developing a strategy designed to revitalize economic growth in the region. In doing so, it has undertaken to support local stakeholders in promoting the emergence of a climate conducive to sustainable dynamic entrepreneurship. The Canada Support Program for the Economy of Gaspé and the Magdalen Islands is one of the components of this strategy.	ENHANCEMENT OF FEDERAL INFRASTRUCTURE	☛ \$35 million over a five-year period. ☛ The deadline to submit applications for funding under the CSPEGI is August 22, 2005.
☛ Category: ☛ Supports production ☛ Supports processing ☛ Assists marketing effectiveness	☛ The CSPEGI gives special support to local initiatives that fall within the ambit of the following components: ☛ Enhancement of federal infrastructure. ☛ Development of medium-sized enterprises. ☛ Emerging initiatives. ☛ Youth. ☛ Community empowerment.	☛ Target clientele ☛ Non-profit organizations, the Town of Gaspé, federal departments and agencies. ☛ Eligible activities ☛ Projects to enhance the industrial port area of Gaspé and other major investment projects designed to revitalize federal infrastructure. Projects may be carried out jointly by the target organizations. DEVELOPMENT OF MEDIUM-SIZED BUSINESSES ☛ Target clientele ☛ Any individual or corporate entity, particularly medium-sized enterprises. ☛ Eligible activities ☛ Establishment of new enterprises requiring capital costs of at least \$500,000.	CONDITIONS SPECIFIC TO THE FIRST THREE COMPONENTS ☛ Eligible costs ☛ Costs deemed reasonable and necessary to ensure the completion of the project, including capital costs. This does not include the cost of land or vehicles that are not used exclusively on the project site, or costs of capital assets exceeding the fair market value. ☛ Financial assistance ☛ Financial assistance should not exceed 50% of eligible costs. It consists of both repayable and non-repayable contributions.

Canada Economic Development for Quebec Regions (CED)

Program Name	Description	Comments	Budget/Funding
CSPEGI (continued)		EMERGING INITIATIVES ➤ Target clientele - Commercial and non-commercial enterprises, non-profit organizations, Community Futures Development Corporations (CFDC) and federal partners. ➤ Eligible activities - Initiatives with a growth-generating effect on the region's economy. COMMUNITY EMPOWERMENT ➤ Target objective - Encourage people to seek innovative solutions in the fields of the new economy and youth entrepreneurship. ➤ Eligible activities - Stepping-up of support services for CFDC enterprises to contribute to the viability and development of SMEs in the regions. - Outreach activities relating to the new economy and youth entrepreneurship.	General evaluation criteria - Economic impact on the region. - Compliance with program objectives and Canada Economic Development's priorities for regional action. - Strategic, technical and financial abilities of the promoter - Availability of funds.

Canadian Food Inspection Agency (CFIA)

CFIA received 1 million/ yr for 5 years from PSA funding

Program Name	Description	Comments	Budget/Funding
Interdepartmental Committee on Therapeutant Use in Aquaculture ☞ Category: ☞ Supports policy/regulatory efforts	☞ Interdepartmental Committee (Health Canada, DFO, Environment) to improve communication regarding therapeutants (Lead: CFIA)		
Polyculture Project (AquaNet) ☞ Category: ☞ Supports research	☞ Provided funding for marine biotoxin, metal, and drug residue testing for mussels and kelp in project. Results will be reviewed by interdepartmental shellfish committee with respect to CSSP's polyculture policy. Eventually may support production if committee concludes that results demonstrate feasibility of polyculture. ☞ Increased sampling at current sites/ sampling at new sites to improve biotoxin monitoring for aquaculture industry (PEI, Quebec, Nfld), and year-round monitoring in Southern BC allows more safe products to be marketed and over a longer period of time.	☞ Approx. \$17 K in 2001/2 - Ongoing ☞ Anticipated similar or slight increase if amount of testing increases	
Increased sampling and analysis for biotoxins ☞ Category: ☞ Supports food safety ☞ Supports policy and regulatory efforts ☞ Assists marketing effectiveness			☞ See below ☞ Ongoing using PSA funding
Assuming marine biotoxin costs ☞ Category: ☞ Supports production	☞ CFIA pays for analysis (in some instances collection and shipping also) in Atlantic and some areas/ leases in BC. Previously industry paid for some of these costs (via CFIA cost recovery). Industry is therefore able to use the money saved elsewhere in their operations.		☞ Total marine biotoxin monitoring costs annually: ☞ Approx 430 K Operations ☞ Approx 400 K Labs ☞ (**includes polyculture project above) ☞ Ongoing using PSA funding

Canadian Food Inspection Agency (CFIA)

Program Name	Description	Comments	Budget/Funding
Antimicrobial resistance Project - Sample collection ☛ Category: ☛ Supports research ☛ Addresses environmental issues	☛ CFIA staff collect fish samples for HC's Veterinary Drugs project re: antimicrobial resistance in fish & shellfish around aquaculture facilities (see description in HC's section)		
Genetically modified (GM) fish ☛ Category: ☛ Supports policy/regulatory efforts	☛ Policy & regulatory review, environmental scanning, networking with international contacts on research, policies etc. ☛ Lab working on detection methodology ☛ Eventually may address food safety issues if/when GM fish are produced in or imported into Canada	☛ 2 FTEs received under Biotech Funding (eff. 08/2001) - Ongoing	
On-Farm HACCP for Shellfish Aquaculture ☛ Category: ☛ Addresses food safety issues ☛ Supports policy/regulatory issues	☛ Participation in development and review of pilot-scale projects for shellfish product safety at farm-level (with OCAD, CAIA etc.) to work towards safer shellfish		
Development of biotoxin standards ☛ Category: ☛ Assists marketing effectiveness ☛ Supports food safety	☛ Funding NRC to develop biotoxin standards for international laboratory supply. Internationally accepted standards will permit expansion of markets because labs will be better able to detect and accurately measure biotoxins in products.	☛ Projected 40-50 K ☛ Funding may be renewed in 2003/2004 at similar level	

Canadian Food Inspection Agency (CFIA)

Program Name	Description	Comments	Budget/Funding
Participation in Baynes Sound, BC management plan ☞ Category: ☞ Assists marketing effectiveness ☞ Supports food safety ☞ Supports production	☞ Co-management of Baynes Sound (oyster aquaculture) with DFO, EC, province and industry. CFIA conducts ongoing monitoring of the plan, audits plan elements and proves scientific/technical expertise as needed. Without co-management project, a large proportion of area would have been closed for harvesting under CSSP (growing area classification).		
Vibrio parahaemolyticus (Vp) monitoring & project ☞ Category: ☞ Supports research ☞ Addresses food safety issues ☞ Assists marketing effectiveness	☞ Cooperation with stakeholders, provincial & federal government to minimize illness from Vp by increasing monitoring, evaluating industry's controls for the Vp hazard, conducting time/ temperature study plus development/ adaptation of detection methodologies.		☞ Approx. 40 K annually since 2000/2001 - Ongoing

Canadian International Development Agency (CIDA)

Program Name	Description	Comments	Budget/Funding
CIDA Projects in Aquaculture ☛ Category: ☛ Supports production ☛ Facilitate technology development and transfer ☛ Supports training			☛ ~ \$19 million from 1991-2001 allocated to various international aquaculture development projects

Department of Foreign Affairs and International Trade (DFAIT)

Program Name	Description	Comments	Budget/Funding
Fish Technical Market Access Committee (TMAC) [DFO, CFIA and DFAIT joint initiative] ☛ Category: ☛ Supports market access	☛ Fish TMAC meets every two months to review, prioritize, strategize and respond to technical market access barriers by Canada's trading partners	☛ Fish TMAC has been meeting regularly for several years. In responding to market access barriers, the fish TMAC works closely with Canadian missions abroad. The committee's responses often involve representation to foreign governments	
Program for Export Market Development - Trade Associations ☛ Category: ☛ Supports market access	☛ To assist associations, including those involved in aquaculture, with generic international marketing		☛ TOTAL support for associations was \$137,176 since 1986. Funded associations include: ☛ Spawn on Kelp Operators Association - \$58,000 (2001/2002) ☛ Underwater Harvesters Association - \$75,252 (2001/2002)

Environment Canada

Program Name	Description	Comments	Budget/Funding
Shellfish Water Quality Protection Program of the Canadian Shellfish Sanitation Program ➔ Category: ➔ Addresses food safety and environmental issues ➔ Supports policy/regulatory efforts	➔ Environment Canada classifies shellfish harvesting areas under the requirements of the Canadian Shellfish Sanitation Program. Classifications are the result of sanitary surveys that identify and evaluate the pollution sources impacting the waters overlying the shellfish areas. Bacteriological monitoring is part of this evaluation.	➔ Capacity to carry out sanitary and bacteriological surveys of the shellfish growing areas is enhanced	➔ PSA Funding identified under Human Health - CSSP for Environment Canada is \$ 7.5 million over five years and \$1.5 million on-going. ➔ Plus additional internal Environment Canada funding.

Environment Canada

Program Name	Description	Comments	Budget/Funding
Special studies ☛ Category: ☛ Supports research ☛ Addresses environmental issues	Special Studies in Atlantic Region (New Brunswick) ☛ Sediment Quality Studies ☛ Site Remediation ☛ Aquaculture Bibliography ☛ Determination of the environmental effects of chemicals used in aquaculture ☛ Lobster Monitoring Studies related to new salmon aquaculture sites ☛ Shellfish Aquaculture ☛ Environmental Monitoring protocols for Aquaculture leases in Nova Scotia	☛ Analyses for metals, persistent organics, toxicity and sealice pesticides. Report on metals published in December 2002. Surveys for sealice chemicals ongoing. ☛ Environment Canada lead a cooperative remediation pilot study at a salmon farm. ☛ Annotated bibliography of about 180 references on the interactions of aquaculture and the environment. ☛ Chemical inventory and risk assessment published in 2001 ☛ Lobster study conducted in 2001 & 2002. Environment Canada providing advice on study design and interpretation of results. ☛ Two proposals for trial environmental quality monitoring programs for these activities. ☛ Assisting NS Department of Agriculture and Fisheries to develop these.	☛ Internal funding
	Special Studies in Ontario Region ☛ Pollution prevention project	☛ Identify information and technology needs for pollution prevention in the Ontario Aquaculture industry as well as produce and test some verifiable approaches to preventing fish habitat and water quality deterioration related to freshwater aquaculture operations in Ontario.	

Environment Canada

Program Name	Description	Comments	Budget/Funding
National Water Research Institute ☛ Category: ☛ Supports research ☛ Addresses environmental issues	☛ Research on nutrient loading and carrying capacity of freshwater	☛ Provide background environmental data at and near cage aquaculture sites. Assessment of water quality effects. Assessment of benthic effects. Provides environmental advice to industry and concerned citizens.	☛ Funding from PSA (\$1.25 million over five years plus 250K on-going) identified for Science R&D for Environment Canada) ☛ Plus additional internal Environment Canada funding
Environment Canada Freshwater Aquaculture Science Working Group ☛ Category: ☛ Supports research ☛ Addresses environmental issues ☛ Provides technical support	☛ Develop a National Scoping Science Assessment	☛ Identify and briefly review of the impacts of freshwater aquaculture in Canada, review of environmental monitoring, review of environmental quality guidelines, identification of knowledge gaps to identify direction for potential future ECS science activities	☛ As above - part of the funding from PSA (\$1.25 million over five years plus 250K on-going) identified for Science R&D for Environment Canada)
Environmental Quality Monitoring & Assessment of the Impacts of Freshwater Aquaculture ☛ Category: ☛ Supports research ☛ Addresses environmental issues ☛ Provides technical support	National Guidelines and Standards Office ☛ Develop a review document on the effects of aquaculture-related nutrient enrichment on aquatic systems.	☛ Intended to provide the necessary information on aquaculture related nutrient impacts on surface waters, including Canadian guidelines.	☛ As above - Part of the funding from PSA (\$1.25 million over five years plus 250K on-going) identified for Science R&D for Environment Canada)

Environment Canada

Program Name	Description	Comments	Budget/Funding
Environmental Quality Monitoring & Assessment of the impacts of Freshwater Aquaculture (cont'd)	Environmental Quality initiatives ➤ Develop specific Guidelines (phosphorus and nitrates) ➤ Provide advice and support to the Environmental Quality initiatives National water quality monitoring review (fed-prov-terr) and strategy development ➤ Develop comprehensive inventory of water quality monitoring activities in Canada, gap analysis, partnership development (prov. terr, OGDs, communities, industry) and strategies for addressing key threats (e.g., nutrients, pesticides) and sectors (incl aquaculture) in Canada. ➤ Incorporate specific needs related to the aquaculture sector into departments, federal (SNR+) and national (F-P-T) integrated monitoring strategies. Environmental Monitoring for Freshwater Aquaculture ➤ Gather information on existing Canadian monitoring programs associated with freshwater aquaculture activities in Canada and other countries ➤ Initiate development of scientific basis for future monitoring programs and identify necessary information to assess environmental impacts associated with freshwater aquaculture.	➤ Contributes to the development of guidelines for nutrients to provide science-based tools for the sustainable management of aquaculture.	As above - Part of the funding from PSA (\$1.25 million over five years plus 250K on-going) identified for Science R&D for Environment Canada)

Environment Canada

Program Name	Description	Comments	Budget/Funding
Canadian Wildlife Service (CWS) provision of advice for avoiding interactions with migratory birds Category: • Supports research • Addresses environmental issues • Supports policy/regulatory efforts	• Policy for the Issuance of Scare Permits for the Aquaculture Industry. In cooperation with industry: • develop codes of practice for the shellfish aquaculture industry in PEI • develop bay management plans for migratory birds • examine effective and scare techniques • Aerial surveys to determine migratory birds distribution and density in areas of existing and potential aquaculture sites. • CWS Atlantic Region has partnered with UNB to secure Aquanet funding for a two-year study. • CWS has partnered with Simon Fraser University in an NSERC-funded study to determine how shellfish farming influences migratory birds in the Pacific.	• Emphasize the avoidance of interactions with migratory birds through careful site selection. Sea bird/ aquaculture working groups have been formed in PEI, NB and are in the process in NS. • Collect information in order to have current data for site application review. • Consists of feeding ecology of Scaup and Long-tailed ducks on mussel leases in PEI to define mussel sizes and times of highest vulnerability to assist in design of preventive measures • Working with industry, conducting scoter distribution, movement, mortality and feeding studies. Results of research will be used to help guide BMPs and or siting for new shellfish aquaculture operations	• Funding from PSA (\$1.25 million over five years plus 250K on-going) identified for Habitat Management for Environment Canada. • Plus additional internal Environment Canada funding

Environment Canada

Program Name	Description	Comments	Budget/Funding
Environmental Assessments ☞ Category: ☞ Addresses environmental issues ☞ Provides technical support ☞ Supports policy/regulatory efforts	☞ Environment Canada participation in the review of aquaculture sites subject to environmental assessment under the CEAA. ☞ Environment Canada published guidelines for the consideration of Environment Canada expertise in the environmental assessment of aquaculture projects.	☞ Advances consideration of departmental concerns related to toxic substances, pesticides, disposal at sea, meteorological conditions, sea state, ice, migratory birds, species at risk and environmental quality. ☞ Identifies sites not suitable for aquaculture due to environmental concerns and develops appropriate mitigation and operating practices to avoid and minimize adverse environmental effects. (on-going)	☞ Same as above - Part of the PSA (\$1.25 million over five years plus 250K on-going) identified for Habitat Management for Environment Canada
Canadian Environment Protection Act Part 7 Division 3 - Ocean Disposal permits ☞ Category: ☞ Supports regulatory efforts ☞ Addresses environmental issues	☞ Granting of permits under Part 7, Division 3 of CEPA for the ocean disposal of fish and blood wastes.	☞ Disposal at sea is only considered where there are no practical or environmentally acceptable alternatives. For aquaculture massive fish die-offs caused by algal blooms (i.e. not disease-related) would be assessed for disposal at sea on a case by case basis	

Farm Credit Canada

Program Name	Description	Comments	Budget/Funding
Term Loans	☛ Primarily for capital improvements (sites, cages, equipment, construction).		☛ +/- \$20 million annual advances. Average 8 year amortization. Primarily in the salmon farming sector.
☛ Category: ☛ Supports production ☛ Supports processing			☛ Portfolio outstanding currently +/- \$60 million

Federal Economic Development Initiative for Northern Ontario (FedNor)

Program Name	Description	Comments	Budget/Funding
Connectedness, innovation, investment, trade and community partnerships programs ☛ Category: ☛ Supports production ☛ Supports processing ☛ Facilitate technology development and transfer ☛ Assists marketing effectiveness ☛ Addresses environmental issues ☛ Provides/supports training ☛ Supports research	☛ FedNor supports a wide range of initiatives in the North. FedNor's program consists of five pillars: connectedness, innovation, investment, trade and community partnerships that encourage small and medium-size business, entrepreneurship development and economic growth.	☛ Projects currently funded by FedNor include: ☛ Preparation of a business plan for Wabano at the Sucker Creek First Nation on Anitoulin Island. The business plan is being written to address the profitability of the enterprise. ☛ Establishment of a Northern Ontario association of aquaculture operators. Administrative funds will be provided to run the organization for a period of 3 years.	☛ Variable / based on submissions

Fisheries and Oceans Canada

Program Name	Description	Comments	Budget/Funding
Program for Sustainable Aquaculture (PSA)	➤ The Program for Sustainable Aquaculture involve three components: Science and Research and Development (R&D), Human Health and an improved Management / Regulatory Framework. These three components consist of the following six programs areas:		➤ \$75 million over 5 years and \$15 million ongoing for Canadian federal aquaculture responsibilities.
➤ Category: ⌘ Supports research ⌘ Addresses environmental issues	➤ Environmental and Biological Science	➤ To develop and implement effective area-wide strategies that will promote and support the environmental sustainability of the aquaculture industry. ⌘ Integrated research and scientific advice on the ecosystem effects of aquaculture. ⌘ Regional scientific capacity is strengthened. ⌘ Capacity to administer ACRDP is established	➤ \$12.5 million over 5 years with \$2.5 million ongoing.

Fisheries and Oceans Canada

Program Name	Description	Comments	Budget/Funding
➤ Category: ☞ Supports research ☞ Facilitate technology development and transfer ☞ May address environmental issues	➤ Aquaculture Collaborative R&D Program (ACRDP)	➤ To provide funds for R&D projects that are proposed and jointly funded with private sector partners. ☞ Capacity to conduct R&D to generate innovative knowledge on new and commercial species is increased. ☞ Hatchery, early rearing and grow-out technology are developed. ☞ Capacity to conduct R&D to address the environmental sustainability issues of aquaculture in marine and freshwater systems is increased. ☞ Capacity to conduct R&D in areas identified as significant to its competitiveness is increased.	➤ \$20 million over 5 years with \$4.5 million ongoing.
➤ Category: ☞ Supports policy/regulatory efforts ☞ Addresses environmental issues	➤ Habitat Management	➤ To address policy and regulatory issues related to maintaining a healthy and productive aquatic environment. ☞ Capacity to assess the increasing numbers of proposed aquaculture developments will be increased. ☞ A more consistent, streamlined and effective review process will be developed and implemented to ensure the environmental sustainability of aquaculture without unduly constraining development.	➤ \$6.25 million over 5 years and \$1.25 million ongoing.

Fisheries and Oceans Canada

Program Name	Description	Comments	Budget/Funding
➤ Category: ➤ Supports policy/ regulatory efforts	➤ Marine Safety	➤ To address measures to modernize, clarify, streamline and strengthen aquaculture policy and regulatory issues related to the NWPA and to support approval and monitoring of aquaculture works and sites under the NWPA. ➤ Capacity to assess the increasing numbers of proposed aquaculture developments will be increased. ➤ Capacity to resolve conflicts between the aquaculture industry, marine community and others will be enhanced. ➤ Capacity to monitor the aquaculture industry to ensure compliance with approvals granted will be strengthened.	➤ \$6.75 million over 5 years with \$1.25 million ongoing.
➤ Category: ➤ Addresses food safety and environmental issues	➤ Canadian Shellfish Sanitation Program (jointly administered by DFO, CFIA and EC)	➤ To ensure the safety and quality of fish and fish products, further increasing consumer and market confidence in aquaculture products. ➤ Capacity to carry out sanitary and bacteriological surveys of the shellfish growing areas is enhanced. ➤ Capacity to measure the sanitary quality of shellfish waters is enhanced.	➤ \$7.5 million over 5 years with \$1.5 million ongoing.

Fisheries and Oceans Canada

Program Name	Description	Comments	Budget/Funding
➤ Category: ➤ Supports policy/ regulatory efforts	➤ Policy and Program Coherence	➤ To provide a sustained federal focus on aquaculture program components and related activities. ➤ Capacity to coordinate and ensure an integrated management approach to Program activities created. ➤ Capacity to provide and coordinate policy guidance on aquaculture-related issues is enhanced. ➤ Capacity to manage implementation of the DFO response to the OCAD Legal Review recommendations is created. ➤ Capacity to liaise with all stakeholders and OGDs/levels of governments is enhanced. ➤ Capacity is created to coordinate development of a performance management framework, evaluate overall program effectiveness and make recommendations for improvement.	➤ \$7 million over 5 years with \$1 million ongoing.

Fisheries and Oceans Canada

Program Name	Description	Comments	Budget/Funding
➤ Aquatic Animal Health (includes finfish and shellfish) ➤ Category: ➤ Supports research ➤ Addresses environmental issues ➤ Supports policy/regulatory efforts	➤ To protect wild and cultured fish, DFO conducts research and diagnostics. The Aquatic Animal Health Program: ➤ Supports research on fish health problems for wild stocks and farmed stocks ➤ Addresses environmental issues through disease prevention; and ➤ Supports national and international fish health regulations	➤ Research to investigate and support: ➤ Development of advanced diagnostic techniques ➤ Disease prevention strategies ➤ Disease treatment options ➤ Surveillance of disease distribution ➤ The Fish Health Protection Regulations and related regulations under the Fisheries Act provide the regulatory basis for the prevention of the introduction of disease agents into Canada. Protection of wild and farmed stocks from exotic diseases. ➤ Support for exports of Canadian aquaculture products through internationally recognized fish health regulations. ➤ Supports the development of international fish health codes through participation in World Animal Health Organization (OIE).	➤ \$2.0 million

Fisheries and Oceans Canada

Program Name	Description	Comments	Budget/Funding
Aquaculture Research Program Category: ☞ Supports research	☞ Research program in support of aquaculture.	☞ DFO research covers a wide variety of research projects including: ☞ new species evaluation ☞ broodstock development ☞ larval development and nutrition ☞ carrying capacity	
Biotechnology Program Category: ☞ Supports research ☞ Supports policy/regulatory efforts	☞ Application of biotechnology to aquaculture	☞ Through its regional laboratories DFO conducts research on transgenic fish, broodstock development, fish nutrition, etc. ☞ DFO is working with EC on the application of the <i>Canadian Environmental Protection Act</i> to aquatic organisms with novel traits.	
Interdepartmental Committee on Aquaculture (ICA) Category: ☞ Supports policy/regulatory efforts	☞ The purpose of the ICA is to: ☞ Work to promote and facilitate the sustainable development of the aquaculture industry in Canada; ☞ Coordinate the aquaculture-related activities of all federal departments in order to maximize efficiency and minimize duplication; and ☞ Help the industry to meet federal regulatory requirements and encourage the development of a policy and regulatory environment within a federal / provincial / territorial framework that promotes and facilitates the sustainable development of the industry.		

Health Canada

PMRA: Pest Management Regulatory Agency

HPFB: Health Product and Food Branch

FNHBB: First Nations and Inuit Health Branch

HECS: Healthy Environment and Consumer Safety Branch

PPHB: Population and Public Health Branch

Program Name	Description	Comments	Budget/Funding
Healthy Environment Thematic Working Group (PMRA is a member)	➡ Interdepartmental WG (Lead: DFO)		
➡ Category: ☞ Supports policy/regulatory efforts ☞ Addresses environmental issues			
Healthy Fish Thematic Working Group (PMRA is a member)	➡ Interdepartmental WG (Lead: DFO)		
➡ Category: ☞ Supports policy/regulatory efforts			

Health Canada

Program Name	Description	Comments	Budget/Funding
Interdepartmental Committee on Therapeutic Use in Aquaculture (PMRA and Veterinary Drugs Directorate in HPFB are members)	➤ Interdepartmental Committee (Lead: CFIA) dealing with issues associated with the use of pesticides and veterinary drugs in aquaculture.		
➤ Category: & Supports policy/regulatory efforts & Addresses environmental issues			
Exploratory meeting with Ontario Government and INAC (FNIHB)	➤ Regional Environmental Manager recently attended two exploratory meetings with Ont. Gov. and INAC to determine if we could establish a formalised, linked working relationship with respect to Aquaculture. Because the Provincial role was determined to be of a regulatory nature, it was agreed that HC and INAC should probably maintain an advisory role until formally requested by First Nations to become more active.		
➤ Category: & Supports policy/regulatory efforts			

Health Canada

Program Name	Description	Comments	Budget/Funding
Surveillance of antimicrobial use and antimicrobial resistance (AMR) in Agrifood and aquaculture sectors (Veterinary Drugs Directorate) (PPHB – Laboratory for Foodborne Zoonoses – Guelph) Category: - Supports policy/regulatory efforts - Supports research - Addresses environmental issues	LFZ provides complementary surveillance activities for the monitoring of resistance in humans under the leadership of CIDPC by providing information on resistance emerging in animals and food supporting the policy development for non-human use of antimicrobial. In collaboration with Ontario Ministry of Agriculture and Food, estimate prevalence of AMR among E. coli and Acromonas in inland trout. In collaboration with BC, MAFF – develop database for use by BC feedmills to acquire commodity specific (including aquaculture) antimicrobial use statistics In collaboration with Bureau of Microbial Hazards, Biohazards Containment and Safety Unit, Canadian Food Inspection Agency, Food and Agriculture Organization conduct study to evaluate AMR in BC farmed salmon (see ORL submission).		\$40 K funded through LFZ and VDD in 2002-03
Office of Regulatory and International Affairs (Veterinary Drug Directorate) (HPFB) Category: Addresses environmental issues	Leads the Environmental Impact Initiative for the Department. Co-ordinates Interdepartmental research initiatives with respect to the impact of drugs (human); veterinary drugs, biologics, genetic therapies and radiopharmaceuticals; natural health products, cosmetics; medical devices; food additives; and novel foods. Leads the development of environmental impact assessment regulations for substances in products regulated under the Foods and Drugs Act.	The regulations will set the requirements for an assessment of the environmental impact of substances in vet drugs used in aquaculture. - Until the regulations are developed, new substances in vet drugs submitted to HC for approval will be required to provide notification and environmental impact data as per the New Substances Notification Regulations under CEPA. - Assessment carried out by the Environmental Assessment Unit, within HECS.	

Health Canada

Program Name	Description	Comments	Budget/Funding
Western Region's Organic Residues Laboratory (Food Directorate) (Veterinary Drugs Directorate) (HPFB)	➤ Veterinary Drug Use in Salmon Aquaculture: drug residues and antimicrobial resistant bacacteria in reared salmon and related species.	➤ The overall goal of this project is to acquire baseline data on antimicrobial resistance in aquaculture relating to the use of antimicrobials in the industry and to assess, evaluate and design experimental studies to provide scientific understanding on the human health impact. This project has involved collaborators in federal and BC provincial partners, academia, and industry.	➤ Project began in 1998. Overall funding from then to this fiscal year: 890K. ➤ Currently the project is funded by VDD of HPFB with 2 FTEs and 20K (O& M) for 4 years.
➤ Category: ➤ Provides technical support ➤ Supports policy/regulatory efforts Western Region's Organic Residues Laboratory (Food Directorate) (HPFB)	➤ Detection of transgenic (GM) fish in Canadian food supplies and assessment of potential adverse effects.	➤ The GM salmon is the first genetically modified animal considered to be released to the market as a novel food. The data generated from the studies will provide valuable and urgently required information on safety issues of human consumption of GM fish. This allows the Government to define and enforce guidelines for the industry. This study will establish the foundation for policy and regulatory decisions as well as monitoring tools for GM fish and other transgenic animals which are essential for Health Canada to ensure food safety and protect public health.	➤ Project began in 2000 using biotechnology Genomics R&D funds, with two year funding of 800K in western region and Ottawa. ➤ Approximately 250K (3 FTEs, a PDF, and O&M) for 2002/2003 and ongoing.

Health Canada

Program Name	Description	Comments	Budget/Funding
National Fish Survey (HPFB) ☞ Category: ☞ Provides technical support ☞ Supports policy/regulatory efforts	☞ Collection and analysis of retail fish (including farmed, wild, domestic and imported) for contaminants such as PCBs, dioxins, furans, methylmercury, veterinary drugs and pesticides.	☞ Approximately 250 samples of fish and seafood were collected at retail across Canada and processed for analysis. Methods were developed for total mercury and for methyl mercury. All samples have been analyzed for total mercury and the results are being evaluated. ☞ Approximately 130 samples were received by Western Region Organic Residues Laboratory. 60 samples have been analysed for dioxins and furans, PCB's and PBDE's. ☞ Analysis of pesticides is being planned.	☞ \$215 K
Extra-label use (ELU) of drugs in aquaculture study (Veterinary Drugs Directorate) (HPFB) ☞ Category: ☞ Supports research ☞ Supports policy/regulatory efforts	☞ A survey of ELU (the use of a product in a manner that is not indicated on the label or in the package insert of a drug) of drugs in aquaculture (Fall 2003) and a research program may be developed to facilitate the safe use of drugs in aquaculture.		☞ \$258 K funded by the Veterinary Drugs Directorate a portion of which will be directed to aquaculture.
Environmental Assessment Unit (HECS) ☞ Category: ☞ Addresses environmental issues	☞ The Environmental Assessment unit is responsible for carrying out environmental impact assessments of "new" substances found in products regulated under the Food & Drugs Act using the New Substances Notifications Regulations under CEPA.		

Health Canada

Program Name	Description	Comments	Budget/Funding
Interdepartmental Committee on Aquaculture (DFO and Veterinary Drugs Directorate) (HPFB)	➤ Provide consultations with regards to fish disease diagnosis and control, fish husbandry practices and the approval and use of veterinary drugs in aquaculture.		
➤ Category: ↳ technical support ↳ support ↳ policy/regulatory efforts			
Food Directorate (Quebec Region) and Veterinary Drugs Directorate (HPFB)	➤ Develop methods for determination of residues of antimicrobial drugs in aquaculture fish products		➤ Fiscal year 2002-2003 (excluding EBP) \$ 11.5 000 funded by the Veterinary Drugs Directorate.
➤ Category: ↳ Supports policy/regulatory efforts	➤ Survey to determine the incidence and levels of residues of veterinary drugs in aquaculture products.		
Seafood Safety and Aquaculture (Food Directorate and Veterinary Drugs Directorate) (HPFB)	➤ Hazard identification and / or risk assessment of antimicrobial resistant organisms in fish and shellfish.	➤ Ongoing collaborative project with CFIA, HPFB Western Region, British Columbia Aquaculture Salmon Industry and HPB Group on climate change	➤ Fiscal year 2002-2003 (excluding EBP) \$ 35 000 funded by the Veterinary Drugs Directorate.
➤ Category: ↳ Supports policy / regulatory efforts			

Human Resources Development Canada (HRDC)

HRDC has been working with the industry since 1995 and has contributed close to \$4 millions to human resources projects for the aquaculture industry

Program Name	Description	Comments	Budget/Funding
Youth Science & Technology Internships ☞ Category: ☞ Supports training	☞ This national initiative helps youth who are unable to get a job without assistance. Contribution funds are provided to the sector to provide opportunities for underemployed or unemployed Canadian youth that will foster their long-term employability in the aquaculture industry.		☞ \$538,000 TOTAL ☞ \$250,000 (2001-02) and ☞ \$288,000 (2002-03)
Aquaculture Industry Situational Analysis and Strategy Workshop ☞ Category: ☞ Supports research	☞ This project aims at providing meaningful workplace experience for 40 participants in aquaculture science and technology positions. ☞ On behalf of the Canadian Aquaculture Industry, The Canadian Aquaculture Industry Alliance is undertaking a situational analysis and a national workshop to identify the human resource challenges affecting the industry and to establish a list of human resource priorities for the aquaculture industry.		☞ \$150,000 TOTAL ☞ \$100,000 (2001-02) and ☞ \$50,000 (2002-03)
	☞ The ultimate goal is for industry leaders to identify the aquaculture human resources priorities to develop a strategic plan for the industry human resources.		

Indian and Northern Affairs Canada (INAC)

Program Name	Description	Comments	Budget/Funding
Opportunity Fund Program	➤ OFP provides financial aid in the form of matching equity funding. The objective is to use the funding to obtain conventional debt financing for business start-ups or for business expansion.		➤ \$10 million/year ongoing
➤ Category: ☞ Supports production ☞ Supports processing			
Major Business Projects Program	➤ MBPP provides funding to obtain conventional debt financing for business start-ups or a business expansion in order to pursue a major industrial, commercial or resource-based opportunity. First Nation and Inuit businesses access this program via their respective Community Economic Development Organization (CEDO).		➤ \$10 million/year ongoing
➤ Category: ☞ Supports production ☞ Supports processing			
Resource Acquisition Initiative	➤ RAI helps communities to fund resource-sector and related business opportunities which may include acquiring natural resource permits and licences.	➤ Aquaculture initiatives funded under the RAI include: ☞ Taggaree – Homalco First Nation Hatchery in British Columbia (\$200,000) ☞ Clam Harvesting / Community test fishery in the community of Qikiqtarjuaq on Baffin Island (\$5,000)	➤ \$5 million/year ongoing
➤ Category: ☞ Supports production ☞ Supports processing			

Indian and Northern Affairs Canada (INAC)

Program Name	Description	Comments	Budget/Funding
Atlantic Practical Measures (joint DIAND-DFO project) Category: ☞ Supports production ☞ Supports processing	Under the Atlantic Practical Measures / Marshall Strategy, various forms of aquaculture initiatives are funded through FN fisheries agreements. Examples include arctic char land based aquaculture project in Millbrook First Nation, Nova Scotia and expansion of an existing oyster aquaculture project in Chapel Island First Nation, Nova Scotia. A proposal from Membertou First Nation for a Halibut aquaculture project is currently in the assessment stage for potential project funding.	☞ Projects funded under the measures include: ☞ Millbrook First Nation, Nova Scotia - arctic char land based aquaculture project. Total provided by INAC is 2Million in fiscal year 2002/03 (funded under Marshall strategy through FN fisheries agreements) ☞ Chapel Island First Nation, Nova Scotia - they are expanding an existing oyster aquaculture project - we provided 500K in fiscal year 2001/02 (funded under Marshall strategy through FN fisheries agreements) ☞ A proposal from Membertou for a Halibut aquaculture project is currently in the assessment stage for potential project funding.	

National Research Council

Program Name	Description	Comments	Budget/Funding
Institute for Marine Biosciences ☞ Category: ☞ Supports research ☞ Supports production ☞ Addresses environmental issues	☞ Aquaculture Research ☞ Seafood safety / Marine toxin research, including production, sale and distribution of certified toxin standards and reference materials ☞ New Capital Construction	☞ A multifaceted research program on marine fish, shellfish and algae, with primary foci in fish disease, nutrition and application of genomic technologies ☞ A world-leading research program that provides knowledge for creation of certified marine toxin standards (e.g., for PSP) for world-wide distribution. Often the only world source for these materials ☞ Construction and outfitting of a new pump house and wet laboratory research building at IMB-Sandy Cove	☞ Prorated management, administration and overhead costs included ☞ Salary \$3.29 M ☞ Operations \$2.81 M ☞ Minor capital \$1.10 M ☞ Prorated management, administration and overhead costs included ☞ Salary \$0.76 M ☞ Operations \$0.85 M ☞ Minor capital \$0.25 M ☞ Funded over a 4-year period, 1999 – 2003 ☞ \$4.9 M over 4 years

National Research Council

Program Name	Description	Comments	Budget/Funding
Industrial Research Assistance Program (IRAP) Category: ☞ Facilitates technology development and transfer ☞ Supports research ☞ Supports training ☞ May help to address environmental and regulatory issues	☞ IRAP provides technology assistance to SMEs at all stages of the innovation process, to build their innovation capacity.	Through its national network of more than 100 partners and a field delivery staff of over 260 Industrial Technology Officers (ITAs), IRAP provides SMEs with: ☞ Advisory Services: technical assistance; literature and patent searches; referrals to other programs and services; expertise searches; linkages to networks to establish multi-party collaboration; and diagnostic services. ☞ Financial Assistance: to support strategic R&D activities, sharing the risk in breaking new ground and refining products, processes and services, as well as accessing technology and resources in Canada and abroad. ☞ Precommercialisation Assistance (in conjunction with Technology Partnerships Canada): repayable contributions to projects in the precommercialization stage related to applications of biotechnology or environmental technologies (among others). ☞ Sustainable Development: through IRAP's network, finding ways to minimize resource consumption, improve production processes, prevent pollution and reduce waste.	☞ Over \$1 million contributed each year to projects involving aquaculture

Natural Sciences and Engineering Research Council of Canada (NSERC)

Program Name	Description	Comments	Budget/Funding
AquaNet ☞ Category: ☞ Supports research ☞ Supports training	☞ A Network of Centre of Excellence involving 19 universities/colleges, 62 industries, 15 government departments/organizations/other agencies. ☞ AquaNet supports research of university based researchers and their industry and government collaborators and the training of highly qualified personnel (undergraduates, graduate students, post-doctoral fellows and technicians).	☞ AquaNet provides research funding to 39 research projects devoted to improving the country's aquaculture industry, through higher productivity, sustaining the quality of the marine environment or helping participants deal with the social and economic factors of their enterprise. Projects fall into one of the following three themes: 1) animal production; 2) socio-economic aspects; and, 3) environmental integrity	☞ \$14.4 million over four years (1999-2003) ☞ AquaNet funding has been renewed from 2003 to 2006
Strategic Grants ☞ Category: ☞ Supports research	☞ The Strategic Project Grants program funds project research in target areas of national importance and in emerging areas that are of potential significance to Canada. The research is early stage with the potential to lead to breakthrough discoveries.	☞ Aquaculture research falls within the <i>Biosciences</i> targeted area. Research on stocking, feeding, growth & reproduction, epidemiology, nutrition, protection from predation and harvesting is supported.	☞ Nine projects are currently funded at approximately \$1 million annually
Collaborative Research and Development (CRD) Grants ☞ Category: ☞ Supports research	☞ CRD grants support well-defined projects undertaken by university researchers and their private-sector partners. CRD awards cover up to half of the total project cost, with the industrial partner(s) providing the balance in cash and in kind.	☞ CRD funds are not targeted to specific areas of research but instead support research in all disciplines of natural sciences and engineering.	☞ Approximately \$27 is committed to the CRD program.
Discovery Grants ☞ Category: ☞ Supports research	☞ Discovery Grants support ongoing programs of research in all disciplines of natural sciences and engineering. These grants recognize the creativity and innovation that are at the heart of all advances in research. Researchers are free to work in the mode most appropriate for the research area.	☞ Discovery Grants are not targeted to specific areas but instead support research in all disciplines of natural sciences and engineering.	☞ Approximately \$305 million is committed to the Discovery Grants program

Statistics Canada

Program Name	Description	Comments	Budget/Funding
Aquaculture Industry – Value Added Account ☛ Category: ☛ Supports research ☛ Supports policy/ regulatory efforts	☛ Survey based estimates of revenues and expenses for Canada and the provinces along with gross value added to the Canadian economy.	☛ This program started in 1997 and is now permanent.	☛ \$170,000
Aquaculture Production, Value and Exports ☛ Category: ☛ Supports research ☛ Supports policy/ regulatory efforts	☛ Based on administrative data the program publishes commodity and financial statistics for Canada and the provinces.	☛ The program started in 1991 and is now permanent.	☛ \$20,000

Western Economic Diversification (WED)

Program Name	Description	Comments	Budget/Funding
Western Economic Diversification Program (WDP) ☞ Category: ☞ Supports training ☞ Supports research ☞ Supports production ☞ Supports technology development and transfer	☞ Contributions under the WDP support activities that develop and diversify the western Canadian economy and activities where economic and/or employment benefits accrue primarily within western Canada. Funding is focused on activities that support: innovation; development and expansion of the business sector in western Canada; creation or enhancement of partnerships that promote collaboration and investment in economic development; and economic research to provide a sound knowledge-base for the diversification of the western Canadian economy.	☞ Under the WDP, there are several sub-programs or initiatives, including: International Trade Personnel Program (ITPP): Assists growing export-oriented small- and medium-sized enterprises (SMEs) in western Canada to hire unemployed or under-employed recent post-secondary graduates to work on international trade-related projects. ☞ First Jobs in Science & Technology Program (FIST): Assists SMEs to adopt new technologies. The First Jobs Program provides funding to hire recent science and engineering graduates. As well as providing SMEs with valuable technological expertise, the program also provides western Canadians with their "first jobs" in areas related to their field of training. ☞ The Canada Foundation for Innovation Support Program: Designed to enhance western institutions' rates of participation in the Canada Foundation for Innovation (CFI). WD reimburses qualified western research institutions up to 90 per cent of eligible direct costs incurred to a maximum of \$20,000 for to assist with the cost of preparing a CFI proposal.	☞ Individual aquaculture farms have received funding under the FIST program.

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Program Name	Description	Comments	Budget/Funding
WD Loan Fund Program	➤ Leveraged loan funds in partnership with various financial institutions. WD contributes funds to a "loan loss reserve", which is intended to partly offset higher risks associated with eligible loans. This allows financial institutions to supply loan capital to clients to whom it would not otherwise make loans.	➤ Eligible clients apply for funds directly through the financial institutions. ➤ Points of Service are available on WD's website: www.wd.gc.ca	
Community Futures Program	➤ Program supports community economic development in rural areas by assisting communities to develop and diversify their communities. Contributions support the operating costs of Community Futures Development Corporations (CFDCs) in the four western provinces and provide capital for an investment fund. This investment fund provides financial assistance local SMEs to create and maintain employment in the community.	➤ Clients access services directly through individual CFDC's. ➤ Points of Service are available on WD's website: www.wd.gc.ca	
Softwood Industry Community Economic Adjustment Initiative (SICEAI)	➤ The objective of this program is to support long-term community diversification & adjustment. The target clients are forest-dependent communities directly impacted by punitive U.S. tariffs (Urban metro areas are not eligible). The approach is community-driven and responsive to local priorities.	➤ SICEAI is a two-year national program that terminates on March 31, 2004. The program will be delivered by regional agencies using existing delivery networks (WD). Industry Canada coordination will be out of Ottawa with the Minister's Advisory Committee in BC.	➤ National funding allocation is \$110 million.
Coastal Community Economic Adjustment Initiative	➤ CEAI supports economic development and diversification in B.C.'s communities affected by the changes in the salmon fishery. Of the 101 CEAI projects, eight were specifically directed to aquaculture projects, while seven others involved fisheries (processing, other products, experimental fishery, harvesting).	➤ Aquaculture projects funded under CEAI include: ⌘ \$250,000 - Abalone Hatchery Technology Initiative ⌘ \$250,000 - Ehatis Oysters ⌘ \$250,000 - Kitkalla Nation Abalone Rehabilitation ⌘ \$250,000 - Salmon Aquaculture	

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Program Name	Description	Comments	Budget/Funding
Innovation & Community Investment Program (ICIP) ☞ Category: ☞ Supports research ☞ Supports technology development and transfer	☞ WD supports innovation and creates new economic opportunities in western Canadian communities. Projects carried out under ICIP are focused on specific issues and opportunities grouped around three major themes: Community Innovation Strategy, Innovative Technologies, and Skills Development.	☞ Recently ICIP funding has been approved for the Centre for Shellfish Research at Malaspina University – College.	
Service Delivery Network Program ☞ Category: ☞ Supports business development (may support production and processing)	☞ Program increases access to services in western Canada through service delivery arrangements with community-based organizations that provide business information services and access to capital to SMEs. Examples of Service Delivery Network Program Partners include: the Women's Enterprise Initiative (WEI) and Francophone Economic Development Organizations (FEDOs).	☞ Clients access services directly through individual Partners. ☞ Points of Service are available on WD's website: www.wd.gc.ca	
Canada Business Services Centres ☞ Category: ☞ Supports business development (may support production and processing)	☞ WD funding supports centres in the region that provide the public with a wide range of information on government services, programs and regulations and respond to enquires regarding starting a new business or improving an existing one.	☞ Clients access services directly through individual Business Service Centres. ☞ Points of Service are available on WD's website: www.wd.gc.ca	

